Montana Department of Environmental Quality
Waste Management and Remediation Division
Waste and Underground Tank Management Bureau
Solid Waste Section

Response to Public Comments Received for the Proposed Land Application Site – T&D Construction & Excavation

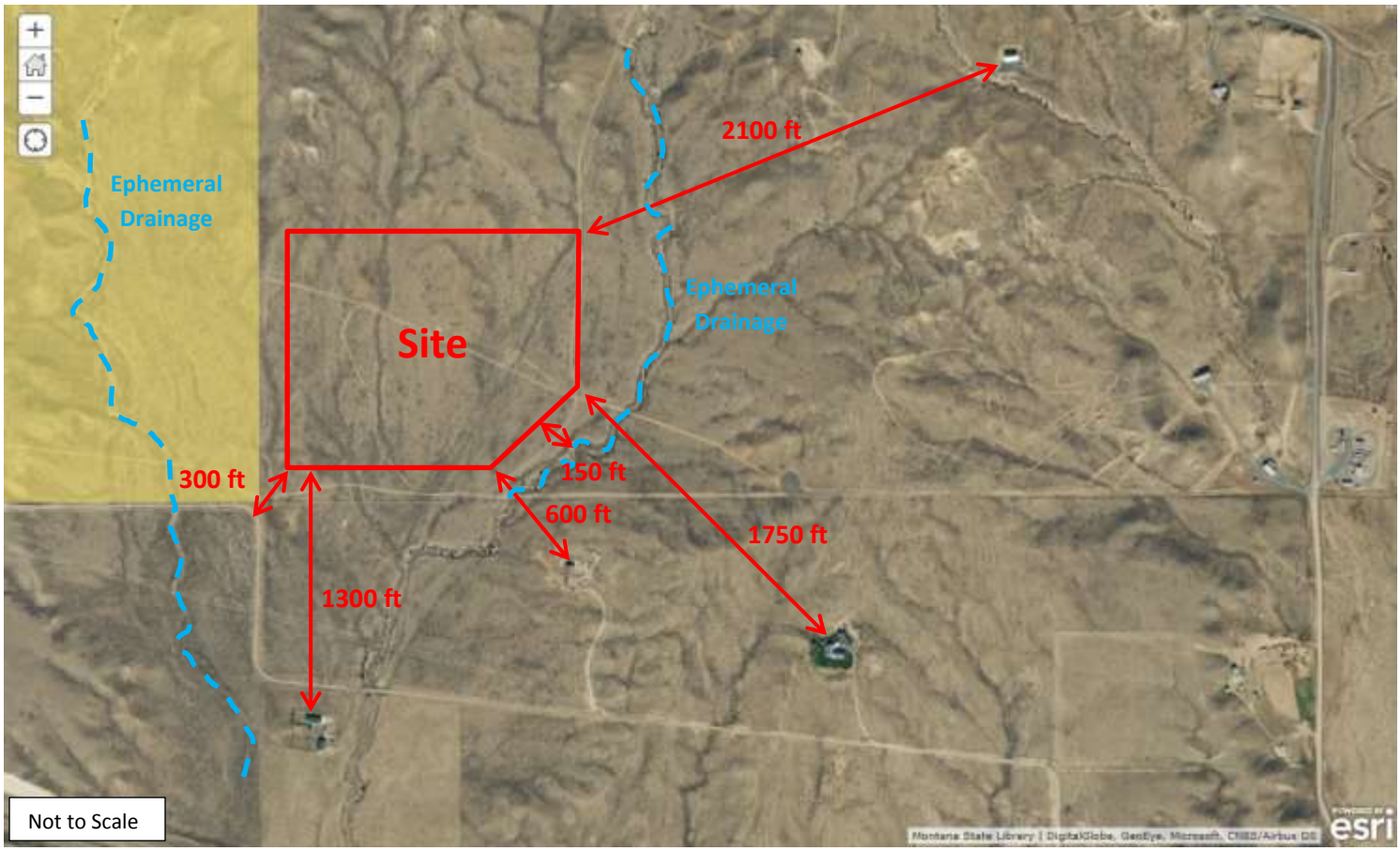
March 15, 2018

Mr. Robert Donat of T& D Construction & Excavation (T&D) submitted an application for a new septage land application site in Jefferson County. T&D proposes to land apply septage, portable toilet waste, and graywater on the Robert Donat property located in Jefferson County in the Southwest ¼ of the Southwest ¼ of Section 23, Township 2 North, Range 5 West. The Donat property has 320 acres available, however, only 40 acres was proposed for land application (See attached site map). Land application will occur on 10 acres per year as the applicant has split the site into four separate sites and will occur on an as-needed basis.

The Department of Environmental Quality (DEQ) published a draft Environmental Assessment (EA) of the proposal on November 8, 2017 and a 30-day public comment period was initiated. The comment period concluded on December 8, 2017.

DEQ received written comments from six commenters during the public comment period. Comments received that are outside the context of the regulatory purview of DEQ's Septic Tank Pumper (STP) Program are not addressed here. Comments with similar content that are within the scope of this proposed action have been summarized and combined for the purpose of providing an inclusive response to comparable issues. Responses are provided in the context of the proposed license action, that is, whether or not the proposal meets the requirements of the laws and rules. If so, the site must be approved by DEQ's STP Program. However, DEQ may impose additional license conditions or restrictions if necessary to protect human health and the environment.

Figure 1.12: Land Application Site Boundaries and Setbacks



DEQ's responses to the comments received during the public comment period are as follows:

Comment 1:
Concerns over the amount of oversight on the land application site. Who knows what they are actually dumping? May the public access any data regarding the monitoring of the site?

Response 1:
T&D will land apply septage, portable toilet waste, and graywater at the proposed land application site. DEQ requires all licensed pumpers in the state of Montana to submit copies of their disposal records twice a year. These records are reviewed to ensure only the correct wastes were applied and that wastes were not over applied. In addition, DEQ performs periodic, unannounced site inspections to verify each site is operated and maintained according to the regulations. DEQ and the Jefferson County Sanitarian may also perform inspections to determine the validity of complaints resulting from land application activities at the proposed site. T&D will screen all wastes to capture litter before wastes are land applied. A tilling/harrowing system will also be attached to the back of the truck so that septage is incorporated into the soil as soon as it is applied. These two methods meet the requirements for land application.
All of DEQ's septic tank pumper files are considered public record and may be viewed at any time during normal business hours.

Comment 2:
Residents located nearby the land application site are concerned about the odors this activity may cause.

Response 2:
With proper site management odors will be kept to a minimum. Odors associated with septage land application are typically confined to the immediate vicinity of the application area. DEQ staff has performed numerous inspections of land application sites when wastes were actively being applied and odors were only noted during the application and were only detectable within 10-20 feet of the application area. Winds are typically from the north and west in the Whitehall area and will help to dissipate odors quickly. Although the DEQ does not regulate odors, the presence of odors outside the land application area could mean that wastes have been over-applied or not incorporated as required. Because wastes will be incorporated as they are land applied, odors should not be detected by surrounding property owners. DEQ and/or the local sanitarian would respond to odor complaints to determine if wastes have been properly managed on site.

Comment 3:
There may be an application for this kind of thing, but it needs to be further than 300 feet from a residential neighborhood.

Response 3:
The regulations (ARM 17.50.809) prohibit the land application of wastes within 500 feet of any occupied or inhabitable building.

As noted in the draft EA and shown on Figure 1.12, the closest inhabitable building is approximately 600 feet from the land application site. The area proposed for land application meets the setback requirements noted above.

Comment 4:
The land application site will negatively impact our property values.

Response 4:
DEQ has found no evidence that indicates properties adjacent to land application sites have experienced diminishing property values due to land application activities. The activities performed during land application are similar to those of farming and ranching activities that are commonplace in Montana. It has been more commonly noted that land application sites bring much needed moisture and nutrients to a dry and unused property which tend to lead to better grass and crop production.

Comment 5:
If an individual purchases the neighboring property with plans of building, the setback requirements severely narrow potential building sites when trying to maintain the required distance of 500 feet.

Response 5:
Should neighboring property owners construct inhabitable buildings; the land application site boundaries will be adjusted to comply with the 500-foot setback requirement. Neighboring lots are not narrowed on potential building sites even though the land application site may be approved prior to construction.

Comment 6:
Figure 1.12 is labeled as "Not to Scale". How are distances determined if the map is not to scale?

Response 6:
The label "Not to Scale" is used in DEQ's draft EA to avoid errors that may arise as a result of the editing and printing process or web publication. DEQ utilizes the ESRI ArcGIS program to map and measure distances to ensure the proposed land application areas comply with the setback requirements in the regulations.

Comment 7:
The draft EA states that there are five wells located in Section 23 and fourteen more in Section 26, but only the five nearest were used for analysis while Table 3.1 clearly lists six wells.

Response7:
As depicted on Figure 3.2 of the draft EA, the figure references the location of water supply wells within one-half mile of the proposed land application site. The wells used in DEQ's analysis were the five wells located in Section 23 and the one well in Section 26, all which are located within one-half mile of the proposed land application site. The other 13 wells located in

Section 26 were identified as wells in the vicinity of the proposed site, but were not used in the analysis of static groundwater levels. The regulations require that the depth to groundwater beneath a land application site is greater than 6 feet. DEQ's review determined that the static water levels for all wells identified within the vicinity of the proposed land application site is greater than 6 feet below ground surface. The text in paragraph two of Section 3.4.2 has been revised as follows, "For an understanding of the area, DEQ reviewed information from five wells located nearest the proposed land application site in Section 23 and the nearest well in Section 26 to determine the depth to groundwater nearest the proposed land application site".

Comment 8:
The draft EA indicates that personal property located along the south west corner of the proposed site as shown in Figure 1.12 is 300 feet from a road or subdivision. It should be noted that the property line is closer than the 300 feet stated.

Response 8:
As shown in Figure 1.12, the 300-foot distance is to the road that runs to the south of the proposed land application site. This location was measured and labeled due to it being the closest proximity the road comes to the borders of the land application site. The regulations require a setback of 100 feet from any state, federal, county, or city-maintained highway or road. The setback from a habitable building is 500 feet and there are currently none that have been constructed within that distance. The proposed land application site meets the requirements of these regulations.

Comment 9:
Figure 3.2 is useless because it does not show the site, the location of water wells, or the well numbers as captioned.

Response 9:
DEQ apologizes for errors in the image. The errors were a result of document formatting prior to printing. The information was not meant to be left off the document and has been corrected in the final EA.

Comment 10:
How is it determined that runoff from the proposed site will not reach the drainage and be carried south to the Pipestone Ditch? Many ranchers pull water from this for their fields and crops.

Response 10:
As stated in Response 3, the regulations prohibit land application within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands. The recognized drainages for this site include the two as labeled in Figure 1.12 to the east and west of the site. The areas approved for land application are outside the 150-foot setback.

The Pipestone Ditch is well outside these requirements and is determined to not be affected through runoff and surface water.

Comment 11:
Multiple ephemeral and intermittent drainages were not recognized in the Draft EA and need to be addressed.

Response 11:
Ephemeral or intermittent drainages are described as streams, ditches, or channels through which water flows through intermittently or ephemerally. Typically, an intermittent drainage has flowing water periods during the wet season, but are typically dry during the hot summer months. Intermittent drainages show clear cut channels and particle distribution in the beds. Ephemeral streams or ditches flow only after precipitation. Runoff from rainfall is the primary source of flow for these. The channels from the travel of flow through an intermittent or ephemeral drainage can be clearly seen in the dry season and exhibit bed and bank markings.

DEQ staff walked the site to determine areas of the site acceptable for land application. DEQ identified two ephemeral drainages running north to south. One drainage borders the site to the east, the other borders the site to the west. As a result, the areas approved for land application site has been identified so the 150-foot setbacks are maintained. No other stream or channel beds were distinguishable within the site boundaries. While contours of the land and increased vegetation may be visually interpreted differently on maps, they do not distinguish a stream or channel. A walk of the site combined with multiple different satellite images and time lapses do not show any other stream beds or channels forming from periodic rainfall.

Overland flow and sheet flow due to rainfall is not considered an ephemeral or intermittent drainage. These occurrences do not cut channels in the land, nor do they transport particles a long distance down gradient. Overland flow is also typical when the soil in an area has become fully saturated. Both soils identified at the site are reported to accept 0.57 to 1.98 inches and 2.13 to 7.09 inches of rain per hour before becoming saturated.

Land application is not a likely to occur during a high rainfall event because the weight of loaded trucks would tear up the fields, resulting in ruts and the likelihood of the truck becoming stuck in the mud.

The applicant will utilize a tilling or harrowing device that attaches directly to the back of the truck so that wastes are incorporated immediately and will not sit on the surface for any length of time. This incorporation will create more cavities and voids in the soil to accept liquid, including rainfall.

Comment 12:
Errors on images in Figures 1.5 and 1.12 and text on page 2.

Response 12:
- Figure 1.5 has been revised
- Figure 1.12 has been revised
- Text on page 2 has been changed from Whitehall Creek to Whitetail Deer Creek

Comment 13:
What is the duration of the licensing period?

Response 13:
The Septic Tank Pumper Program licenses pumpers in the state of Montana on a calendar year basis. Each license must be renewed annually.

Comment 14:
Reference is made to septage needing to be incorporated in, but is later stated that, "addition of alkali material so that the pH is raised to and remains at 12 for higher than a period of 30 minutes". Is that all that is required for direct application of the septage on bare unprotected ground with no incorporation required?

Response 14:
The regulations allow incorporation, injection, or pH adjustment of applied wastes. These are the options available to licensed pumpers when land applying and are necessary for the control of vectors and pathogens. DEQ has included the other options in the text of the EA to better describe the options provided in the regulations.

Comment 15:
Can septage be sprayed directly onto unprepared ground as well as on any associated vegetation (grasses, sage brush or other low lying bushes, cedar trees, etc) with no incorporation?

Response 15:
Land application can occur in areas with vegetation present. With the typical process of land application followed by incorporation, most pumpers treat the fields as if they are farm fields. It is typical to till the fields before land application due to the fact that driving in, tilling, and/or harrowing a field is very difficult with sage brush, trees, or other vegetation present. The applicant will remove the vegetation prior to land application to better facilitate the land application activities.

Comment 16:
The first half of the second paragraph on page 11 mentions a tractor and tillage equipment within six hours of application. Is this an agreement to use this method or may they choose to make a septage application following the stated regulations?

Response 16:
Since the original Operation and Maintenance plan was outlined by the applicant, the applicant has indicated that a harrowing device will be attached directly to the truck so that septage is incorporated immediately after it has been land applied. This option is considered the same as using a tractor and harrow, and is a method approved by DEQ. If the applicant plans to adjust

the pH instead of incorporating wastes, DEQ must be notified. They may do either option, but must inform the DEQ of changes to site operations.

Comment 17:
ARM 17.50.810(1) explicitly states the rule prohibiting applications to flooded, frozen, or snow-covered ground if said pumpings MAY enter state water. Text in the last paragraph on page 11, then states, "Septage may be applied on frozen or snow-covered ground…" Which is it?

Response 17:
Septage may be land applied to flooded, frozen, or snow-covered ground only if the pumpings will not enter state waters, the site has a slope of less than 3%, the site is not within a 100-year floodplain, and the wastes are either pH adjusted before application or incorporated as soon as the weather permits.

Comment 18:
Do "reasonable treatment options" as mentioned in the text exist within 25 miles of the site? If so, would it be appropriate to require and monitor that the applicant use these facilities when the ground is frozen?

Response 18:
Reasonable treatment options must exist within 25 miles of where the wastes have been generated, not from the land application site. While DEQ endorses the use of Wastewater Treatment Plants (WWTP) when the ground is frozen, the locations of and availability for the acceptance of septage is very limited in the region. The closest WWTP to Whitehall that accepts septage is located in Butte. The Butte WWTP is an approved disposal location for the applicant. If wastes are generated within 25-miles of the Butte WWTP, waste would be disposed at the WWTP.

Comment 19:
The final two criteria for frozen or snow covered ground land application state that septage may either be applied if"…the waste is either alkali stabilized immediately or incorporated into the soil as soon as weather permits." Does this mean that we could: 1) see situations where treated septage is applied directly on snow-cover, OR, 2) applied untreated directly on the ground surface and residing there until some later unspecified time?

Response 19:
Yes. The licensed pumper has the option to either alkali stabilize or incorporate wastes when weather permits. The requirement for incorporation, injection, or pH adjustment is not considered a treatment method for septage, but is necessary for pathogen reduction and vector control. The material coming from septic tanks is treated by the septic system itself as a result of the bacterial break down which occurs within the septic tank. Sunlight also helps to break down pathogens. It can also be noted that most pumping businesses slow to a halt during the winter months and land application becomes very minimal.

Comment 20:
How is the amount of alkali to be added determined?

Response 20:
The licensed pumper determines the amount of lime necessary based upon the size of the tank and characteristics of the waste. They must establish and maintain a pH of 12 for at least 30 minutes prior to land application.

Comment 21:
There is no indication of the author visiting the proposed site.

Response 21:
The author of the EA conducted a site visit during the application review and environmental analysis process. The site visit helped to establish the site boundaries by taking into account such things as slopes and site topography, drainages, roads and overall site characteristics. Site visits are conducted when performing the environmental analysis of a proposed land application site. Narrative in the final EA has been revised to reference to this site visit.

Comment 22:
The closest water well is 600ft from the site, not 1930 ft as stated.

Response 22:
As noted in the EA, DEQ uses wells documented in the GWIC database for research purposes. The closest documented well is identified as GWIC #280974, located 1,930 feet to the northeast. The GWIC database does not provide information for a well closer to the proposed land application site. The regulations prohibit land application within 100 feet of a drinking water source. There are no drinking water wells within 100 feet of the proposed land application site.

Comment 23:
In section 2, part 2.1, the EA states, "DEQ has not included any alternatives to mitigate impacts because T&D's application, and operation and maintenance plan, contain the mitigation necessary to prevent significant impacts." Is the application form within this report, or available to the public?

Response 23:
The new disposal site application and all supporting documents were not included in the EA, but are considered public record and may be viewed at any time during normal business hours

Comment 24:
The site geology is incorrect and the lithology present is a mudstone, not alluvium deposits.

Response 24:
The DEQ appreciates comments regarding the geology of the site. It was stated by the commenter that clay-rich strata (mudstone) basically occurs from the ground surface to depths up to 500 feet. Looking at the well log data from the six GWIC documented wells, it can be confirmed that clay or mudstone is present at an approximate 10-20 foot depth. However, the

overlying soils that cover the sites surface can be described as alluvial deposits. The United States Department of Agriculture, Natural Resources Conservation Science Soil Survey lists soils in the area as sandy loams and clay loams. These topsoils comprise the top two feet of the site and the underlying soils were noted as a sandy, gravelly loam. The Montana Bureau of Mines Geologic, Map 62 also confirms alluvium and sandy, gravel near the surface.

Conclusions and Recommendations

DEQ believes that it has thoroughly reviewed the permit application and supplemental materials for the land application of septage, portable toilet waste, and graywater on the Donat property. DEQ has also reviewed and analyzed all written comments provided during the public comment period, as documented herein. Based on the review of all the materials and comments submitted, land application proposed at the site will be protective of human health and the environment.